

Editors' Summary

THE BROOKINGS PANEL ON ECONOMIC ACTIVITY held its eighty-eighth conference in Washington, D.C., on September 10 and 11, 2009. All of the papers were related in some way to the remarkable macroeconomic developments of the past two years: the papers considered the zero lower bound on nominal interest rates, consumer financial regulation, unconventional monetary policy, the macroeconomic consequences of fiscal stimulus, and monetary and fiscal policy in the Great Depression. This issue of the *Brookings Papers on Economic Activity* presents the papers from the conference, comments by the formal discussants, and summaries of the discussions of the papers by conference participants.

IN THE FIRST PAPER, John Williams investigates the implications of the fact that monetary policy cannot push nominal interest rates below zero. An earlier literature studied this issue in light of the Bank of Japan's experience with near-zero rates beginning in the mid-1990s and the Federal Reserve's experience with very low rates in 2003 and 2004. That literature concluded that although the zero lower bound was likely to be a binding constraint relatively frequently, its average economic cost was likely to be small. Williams reexamines this conclusion in light of the recent crisis, during which most major central banks pushed interest rates close to zero.

Williams's first finding is that the zero lower bound is imposing very large costs in the current episode. He reports that although the downturn would have been almost as severe in the absence of the zero bound, the recovery would have been much faster. He estimates that an unconstrained Federal Reserve would have cut its federal funds rate target by about an additional 400 basis points, and that those cuts would have raised output over the next four years by a cumulative \$1.8 trillion. More-

over, this increased output would have come with little or no cost in terms of the Federal Reserve's inflation objective.

Looking forward, Williams considers the possibility that the recent sharp recession might signal a return to the greater macroeconomic volatility experienced in the 1960s and 1970s. Such a change would greatly increase the probability that the zero bound would become a binding constraint with a low target rate of inflation, fundamentally altering the case for a low target. For instance, Williams finds that a 1 percent annual inflation target would very likely be associated with frequent and costly encounters with the zero bound. A 2 percent target would also likely involve large costs if policymakers follow a conventional interest rate rule; however, these costs could be mitigated substantially if policymakers followed alternative monetary policy rules or used countercyclical fiscal policy more aggressively. Only when the inflation target is set as high as 4 percent can policymakers be confident that the zero lower bound will not prevent them from forcefully countering recessions. This is an important and provocative finding in light of the current debate around the optimal inflation target for the United States.

IN THE SECOND PAPER, Sumit Agarwal, John Driscoll, Xavier Gabaix, and David Laibson mount a compelling case that many individuals, particularly older ones, often make poor financial choices. The authors investigate patterns of errors in personal financial decisionmaking across several large-scale databases. A particular strength of these datasets is that they allow the authors to demonstrate quite convincingly that errors in financial decisionmaking are both widespread and quite costly. The financial mistakes they consider include suboptimal use of offers of low interest rates on transfers of credit card balances, misestimation of housing values, and tolerance of excessive interest rates and fee payments. Across a wide range of financial decisions, the authors find that the tendency to make these errors initially declines with age, then flattens during the middle years, and finally rises increasingly steeply during old age. The "age of reason"—the trough of this U-shaped pattern—occurs when people are in their early fifties. This nonlinear pattern likely reflects the offsetting influences of financial experience (which rises with age) and cognitive ability (which generally declines with age). Financial errors by older persons are a particular source of concern because the stakes are often large—personal net worth is typically highest in old age—and the horizon to recover from errors is often limited.

The authors then turn to an assessment of the regulatory implications of these findings, structured around a taxonomy of alternative regulatory

regimes. Although their focus is on the particular challenges faced by older adults, much of the discussion is relevant for all vulnerable populations. In rough order from least to most interventionist, the regimes are *laissez-faire*, disclosure requirements, “nudges” (through choices of defaults, for example), expanded use of advance directives (instructions set out today against a future loss of competency), requirements for financial “driver’s licenses” (where individuals must establish competency to be allowed to make certain financial decisions), enhanced requirements for fiduciaries, protection of assets through sequestration in safe investments, *ex post* prohibition of financial products found to be deleterious, and mandatory preapproval of financial products by regulators. This taxonomy provides a useful framework to guide regulatory change, although the authors conclude that a clear roadmap for appropriate regulation awaits further empirical evidence on how consumers actually make financial decisions. Given the importance of the issues, much more research on household finance is clearly needed.

STANDARD TEXTBOOK ACCOUNTS OF monetary policy describe the role of the central bank primarily in terms of its control of short-term interest rates (in the United States, the federal funds rate). Yet over the past two years the Federal Reserve and other central banks have deployed a whole host of alternative policy instruments, broadly described as “unconventional monetary policy.” In the third paper, Ricardo Reis examines the Federal Reserve’s use of these instruments.

Reis’s focus is on the most novel of the new instruments: direct interventions in credit markets. To analyze these, Reis builds a theoretical model describing the interactions among four types of financial actors in addition to the central bank: investors, who have funds to lend but no specialized financial knowledge or skills; traders, who have a specialized ability to evaluate financial instruments; lenders, who have a specialized ability to evaluate investment projects; and entrepreneurs, who seek to borrow to undertake investment projects. This approach gives a central role to imperfect and incomplete information in explaining financial market transactions. These market imperfections not only result in departures from first-best outcomes, but in some circumstances can even lead to a collapse of normal financial flows.

Reis then examines the Federal Reserve’s recent interventions through the lens of his model. He finds that their impacts often depend on the details of the interventions, on market conditions, and on the skills or authority the central bank has that other market participants do not. He also

finds that in many circumstances loans to traders are a particularly effective form of intervention.

The paper then turns to the Federal Reserve's other instruments. Reis explains why standard concerns about the possibility of insolvency that apply to firms or governments do not apply to the central bank when it increases its liabilities by expanding the quantity of reserves. He also argues that the expansion of reserves will lead to inflation only if the Federal Reserve becomes unduly concerned about the state of its balance sheet, or if deterioration of the balance sheet results in the Federal Reserve losing its independence. Turning to the question of appropriate interest rate policy in the vicinity of the zero lower bound, Reis concludes that the Federal Reserve has followed the precrisis recommendations of many economists—committing to a spell of low interest rates and raising expected inflation—only to a very small extent.

ANOTHER DRAMATIC CHANGE in the policy regime that has resulted from the crisis concerns the role of fiscal policy. Before the crisis, there was broad consensus that monetary policy should be the prime tool of stabilization policy. But with conventional interest rate policy constrained by the zero lower bound, many countries have turned to fiscal policy to stimulate their economies.

In the fourth paper, Robert Hall examines one such fiscal tool: increases in government purchases. The title of his paper poses his central question: By how much does GDP rise if the government buys more output? Hall begins with an empirical exploration, focusing on aggregate U.S. data since 1930. His first conclusion is that government purchases have varied so little in the period since the Korean War that any test based on data from that period is almost certain to be uninformative. It is only the sharp shocks to government spending resulting from the Korean War and, especially, World War II that allow the correlation between increases in government purchases and increases in GDP to be estimated with any precision. Over his full sample, Hall finds that each dollar of increased government purchases is associated with an increase in real GDP of about 50 cents. Unfortunately for econometricians, government spending during those wars was not increased in isolation: both also featured major tax increases and (especially World War II) the use of command-and-control measures. Thus, no firm conclusions can be drawn from these episodes, although one can make a case that they provide likely lower bounds on the effects of increases in government purchases.

Hall then turns to theory. Again, his first result is negative: he establishes that a baseline real business cycle model cannot deliver any substan-

tial positive effect of increases in government purchases on output. He finds that two ingredients are critical to generating such an effect. The first is some force causing firms' markups of price over marginal cost to fall when output expands, leading to the possibility of a procyclical real wage. The second is a force causing modest increases in the real wage to bring forth substantial increases in the quantity of labor. Hall argues that such a response cannot plausibly occur if households are on their labor supply curves, but can arise if there are labor market and search frictions. He also argues that a third ingredient, complementarity between hours and consumption, is needed for consumption to rise. Adding these features to a calibrated model leads him to conclude that output rises slightly less than one for one with government purchases under normal economic circumstances. Importantly, he also finds that the impact is likely to be considerably larger when the nominal interest rate is at the zero lower bound.

IN THE FINAL PAPER, Carmen Reinhart and Vincent Reinhart reexamine the macroeconomic policy lessons from the last previous episode of a large, synchronized global downturn: the Great Depression. That economic slump, like the current one, led policymakers to implement unconventional monetary policy, which for many countries took the form of abandoning the gold standard. The favored interpretation among economic historians has been that this step, by changing expectations and permitting monetary expansion and currency depreciation, was critical to recovery. The key piece of evidence for this interpretation is the finding among a small group of industrialized countries of a quantitatively large and highly statistically significant correlation between how quickly countries left the gold standard and the severity of their depressions: countries that left sooner tended to fare better. Reinhart and Reinhart challenge this finding by showing that it is not robust. In particular, expanding the sample to include developing countries and a few others reduces the estimated effect and renders it insignificantly different from zero. The relationship is even weaker when alternative measures of output behavior are considered. This provocative finding raises the question as to why the strong relationship between exit and recovery disappears in the broader sample. The authors argue that one would not expect leaving gold to be enough to blunt a severe downturn, and they point out that many countries—including some that left gold early—did not experience substantial depreciations of their currencies against the U.S. dollar.

Turning to fiscal policy, Reinhart and Reinhart present two main findings. First, fiscal policy during the Depression was procyclical or acyclical

in many countries. Second, even in those where fiscal policy was counter-cyclical, the stimulus was erratic, so that any potential benefits might have been negated by uncertainty on the part of private agents about future policy. This uneven history makes the Great Depression a poor laboratory for testing the potential value of strong, steady fiscal stimulus in the face of a major worldwide downturn.